Amendments to the Claims

Claims 1-6 (Canceled).

Claim 7 (Previously presented): A thin film chip resistor resistant to moisture without use of metallic tantalum and without use of a screen-printed moisture barrier comprising:

a substrate;

a single continuous metal thin film resistive layer directly attached to the substrate, the metal thin film layer being non-tantalum;

a non-tantalum chip resistor termination attached on each end of the metal thin film resistive layer;

an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and

the outer moisture barrier formed from deposition of tantalum oxide on the metal thin film resistive layer and not through oxidation of tantalum.

Claim 8 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing nickel.

Claim 9 (Original): The thin film resistor of claim 7 wherein the metal film layer is an alloy containing chromium.

Claim 10 (Original): The thin film resistor of claim 7 wherein the metal film layer is a nickel-chromium alloy.

Claim 11 (Canceled).

Claim 12 (Original): The thin film resistor of claim 7 wherein the tantalum pentoxide layer is overlaid by sputtering.

Claim 13 (Previously presented): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum and without use of a screen-printed moisture barrier comprising:

an alumina substrate;

a single nickel-chromium alloy thin film layer directly contacting the substrate;

a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;

an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the nickel-chromium alloy thin film layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and

the outer moisture barrier formed from deposition of tantalum oxide on the nickel-chromium alloy thin film layer and not through oxidation of tantalum.

Claim 14 (Canceled).

Claim 15 (Previously presented): A nickel-chromium alloy thin film chip resistor resistant to moisture without use of metallic tantalum and without use of a screen-printed moisture barrier comprising:

an alumina substrate;

a single nickel-chromium alloy thin film layer directly contacting the substrate;

a non-tantalum chip resistor termination attached on each end of the nickel-chromium alloy thin film;

a passivation layer directly overlaying and contacting the nickel-chromium alloy layer;

an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions; and

the outer moisture barrier formed from deposition of tantalum oxide on the passivation layer and not through oxidation of tantalum.

Claim 16 (Canceled).

Claim 17 (Previously presented): A thin film chip resistor resistant to failures due to electrolytic corrosion under powered moisture conditions without use of a tantalum nitride system and without use of a screen-printed moisture barrier, comprising:

a substrate;

a single thin film resistive element overlaid on the substrate;

a chip resistor termination attached on each end of the thin film resistive element; and

an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the thin film resistive element to reduce failures due to electrolytic corrosion under powered moisture conditions.

Claim 18 (Previously presented): The thin film chip resistor of claim 17 wherein the outer moisture barrier prevents failure after MIL-STD-202 testing.

Claim 19 (Previously presented): The thin film chip resistor of claim 17 wherein the chip resistor termination is wrap around termination.

Claim 20 (Previously presented): The thin film chip resistor of claim 17 wherein the thin film resistive element is a metal thin film resistive element.

Claim 21 (New): The thin film chip resistor of claim 7 manufactured by: depositing the metal film resistive layer directly overlaying and attaching to the thin film chip resistor substrate; attaching the chip resistor termination on each end of the metal film resistive layer; and depositing the moisture barrier consisting essentially of a layer of tantalum pentoxide film overlaying the metal film resistive layer to reduce failures due to electrolytic corrosion under powered moisture conditions, the layer of tantalum pentoxide not being formed by natural oxidation of the metal thin film resistive layer.

Claim 22 (New): The nickel-chromium alloy thin film chip resistor of claim 13 manufactured by: depositing the alloy thin film layer directly contacting the alumina substrate; attaching the chip resistor termination on each end of the alloy thin film layer; and depositing the moisture barrier consisting essentially of a layer of tantalum pentoxide film directly overlaying and contacting the alloy thin film layer to reduce failures due to electrolytic corrosion under

powered moisture conditions, the layer of tantalum pentoxide not being formed by natural oxidation of the alloy thin film layer.

Claim 23 (New): The nickel-chromium alloy thin film chip resistor of claim 15 manufactured by: depositing the alloy thin film layer directly contacting the alumina substrate; attaching the chip resistor termination on each end of the alloy thin film layer; depositing the passivation layer directly overlaying the alloy thin film layer; and depositing the moisture barrier consisting essentially of a layer of tantalum pentoxide film directly overlaying and contacting the passivation layer to reduce failures due to electrolytic corrosion under powered moisture conditions, the tantalum pentoxide layer not being formed naturally by oxidation.

Claim 24 (New): The thin film chip resistor of claim 17 manufactured by: overlaying the resistive element on the substrate; attaching the chip resistor termination on each end of the thin film resistive element; and depositing the moisture barrier consisting essentially of a layer of tantalum pentoxide film overlaying the resistive element to reduce failures due to electrolytic corrosion under powered moisture conditions, the layer of tantalum pentoxide not being formed by natural oxidation of the resistive element.

Claim 25 (New): A thin film chip resistor, comprising:

a substrate;

a metal thin film resistive layer directly attached to the substrate;

a chip resistor termination attached on each end of the metal thin film resistive layer; and

an outer moisture barrier consisting essentially of tantalum pentoxide directly overlaying and attaching to the metal thin film resistive layer for reducing failures due to electrolytic corrosion under powered moisture conditions, the tantalum pentoxide not being formed by natural oxidation of the metal thin film resistive layer; wherein the thin film chip resistor is manufactured by:

(a) depositing a metal film resistive layer directly overlaying and attaching to a thin film chip resistor substrate;

(b) attaching a chip resistor termination on each end of the metal film resistive layer; and

(c) depositing the moisture barrier consisting essentially of a layer of moisture barrier consisting essentially of a layer of tantalum pentoxide film overlaying the metal film resistive layer to reduce failures due to electrolytic corrosion under powered moisture conditions, the layer of tantalum pentoxide not being formed by natural oxidation of the metal thin film resistive layer.

Claim 26 (New): A thin film chip resistor, comprising:

a resistive substrate;

a metal thin film resistive layer directly attached to the substrate, the metal thin film being non-tantalum;

a chip resistor termination attached on each end of the metal thin film resistive layer;

a passivation layer directly overlaying the metal-thin film resistive layer;

an outer moisture barrier consisting of tantalum pentoxide directly overlaying the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions, the tantalum pentoxide layer not being formed naturally by oxidation wherein the thin film chip resistor is manufactured by:

(a) depositing the metal film resistive layer directly overlaying and attaching to the thin film chip resistor substrate;

(b) attaching the chip resistor termination on each end of the metal film resistive layer;

(c) depositing a passivation layer directly overlaying the metal-thin film resistive layer; and

(d) depositing the moisture barrier consisting essentially of a layer of tantalum pentoxide film overlaying the passivation layer to reduce failures due to electrolytic corrosion under powered moisture conditions, the layer of tantalum pentoxide layer not being formed naturally by oxidation.